

# SEDIMENTOLOGY

The Journal of the  
International Association of Sedimentologists  
edited by J. E. Andrews, B. G. Jones  
and A. G. Plint

VOLUME 41  
1994

BLACKWELL SCIENTIFIC PUBLICATIONS

OXFORD LONDON EDINBURGH

BOSTON MELBOURNE PARIS BERLIN VIENNA

© 1994 *Sedimentology*

Printed in Great Britain by Henry Ling Ltd,  
at the Dorset Press, Dorchester, Dorset

## Contents

### NUMBER 1

- 1 *Robert P. Miller and Paul L. Heller.* Depositional framework and controls on mixed carbonate-siliciclastic gravity flows: Pennsylvanian-Permian shelf to basin transect, south-western Great Basin, USA
- 21 *Julian A. Dowdeswell, Robert J. Whittington and Peter Marienfeld.* The origin of massive diamicton facies by iceberg rafting and scouring, Scoresby Sund, East Greenland
- 37 *Ronald B. Cole and Richard G. Stanley.* Sedimentology of subaqueous volcanoclastic sediment gravity flows in the Neogene Santa Maria Basin, California
- 55 *Marcus T. Richards.* Transgression of an estuarine channel and tidal flat complex: the Lower Triassic of Barles, Alpes de Haute Provence, France
- 83 *Tadeusz Marek Peryt.* The anatomy of a sulphate platform and adjacent basin system in the Leba sub-basin of the Lower Werra Anhydrite (Zechstein, Upper Permian), northern Poland
- 115 *B. W. Glover and A. M. O'Beirne.* Anatomy, hydrodynamics and depositional setting of a Westphalian C lacustrine delta complex, West Midlands, England
- 133 *Philippe Muchez, Jim D. Marshall, Jacques L. R. Touret and Willy A. Viaene.* Origin and migration of palaeofluids in the Viséan of the Campine Basin, northern Belgium
- 147 *F. Westall and Y. Rinç.* Biofilms, microbial mats and microbe-particle interactions: electron microscope observations from diatomaceous sediments
- 163 *Christopher A. Scholz and Bruce P. Finney.* Late Quaternary sequence stratigraphy of Lake Malawi (Nyasa), Africa
- 181 Book reviews
- 183 Forthcoming papers

### NUMBER 2

- 185 *Jaco H. Baas.* A flume study on the development and equilibrium morphology of current ripples in very fine sand
- 211 *Geraint Owen.* Current crescents from the Herreria Formation (Lower Cambrian) of northern Spain
- 215 *J. Alan Bartow.* Tuffaceous ephemeral lake deposits on an alluvial plain, middle Tertiary of central California
- 233 *R. J. Nichols, R. S. J. Sparks and C. J. N. Wilson.* Experimental studies of the fluidization of layered sediments and the formation of fluid escape structures
- 255 *Pierre-André Bourque and Lynda Raymond.* Diagenetic alteration of early marine cements of Upper Silurian stromatolites
- 271 *B. S. Mazunder.* Grain size distribution in suspension from bed materials
- 279 *Douglas I. Benn.* Fluted moraine formation and till genesis below a temperate valley glacier: Slettmarkbreen, Jotunheimen, southern Norway
- 293 *Krishnan Srinivasan, Kenneth R. Walker and Steven A. Goldberg.* Determining fluid source and possible pathways during burial dolomitization of Maryville Limestone (Cambrian), Southern Appalachians, USA

- 309 *Jon J. Williams, Graeme R. Butterfield and David G. Clark.* Aerodynamic entrainment threshold: effects of boundary layer flow conditions
- 329 *Michael K. Gagan, David P. Johnson and Gabriel M. Crowley.* Sea level control of stacked late Quaternary coastal sequences, central Great Barrier Reef
- 353 *J.-L. Loizeau, D. Arbouille, S. Santiago and J.-P. Vernet.* Evaluation of a wide range laser diffraction grain size analyser for use with sediments
- 363 *Grete Block Vagle, Andrew Hurst and Henning Dypvik.* Origin of quartz cements in some sandstones from the Jurassic of the Inner Moray Firth (UK)
- 379 Book review
- 381 Announcement
- 382 Forthcoming papers

### NUMBER 3

- 383 *L. M. Agirrezabala and J. Garcia-Mondéjar.* A coarse grained turbidite system with morphotectonic control (Middle Albian, Ondarroa, northern Iberia)
- 409 *Henry S. Chafetz and Patrick F. Rush.* Diagenetically altered sabkha-type Pleistocene dolomite from the Arabian Gulf
- 423 *Azra Meadows, Peter S. Meadows, David Muir Wood and John M. H. Murray.* Microbiological effects on slope stability: an experimental analysis
- 437 *D. A. Edwards, M. R. Leeder, J. L. Best and H. M. Pantin.* On experimental reflected density currents and the interpretation of certain turbidites
- 463 *D. Michalzik and D. Schumann.* Lithofacies relations and palaeoecology of a Late Jurassic to Early Cretaceous fan delta to shelf depositional system in the Sierra Madre Oriental of north-east Mexico
- 479 *Mark J. F. Lawrence.* Conceptual model for early diagenetic chert and dolomite, Amuri Limestone Group, north-eastern South Island, New Zealand
- 499 *Li Guo and Robert Riding.* Origin and diagenesis of Quaternary shrub fabrics, Rapolane Terme, central Italy
- 521 *Elana L. Leithold.* Stratigraphical architecture at the muddy margin of the Cretaceous Western Interior Seaway, southern Utah
- 543 *Christoph Spötl and Stephen J. Burns.* Magnesite diagenesis in redbeds: a case study from the Permian of the Northern Calcareous Alps (Tyrol, Austria)
- 567 *P. Nielsen, R. Swennen and E. Keppens.* Multiple-step recrystallization within massive ancient dolomite units: an example from the Dinantian of Belgium
- 585 *Niels Stenoft.* Early submarine cementation in fore-reef carbonate sediments, Barbados, West Indies
- 605 *Yongzhang Zhou, E. H. Chown, Jayanta Guha, Huangzhang Lu and Guangzhi Tu.* Hydrothermal origin of Late Proterozoic bedded chert at Gusui, Guangdong, China: petrological and geochemical evidence
- 621 *Maria Mutti.* Association of tepees and palaeokarst in the Ladinian Calcare Rosso (Southern Alps, Italy)
- 642 Forthcoming papers

## NUMBER 4

- 643 *J. Haas, L. Ó. Kovács and E. Tardi-Filácz.* Orbitally forced cyclical changes in the quantity of calcareous and siliceous microfossils in an Upper Jurassic to Lower Cretaceous pelagic basin succession, Bakony Mountains, Hungary
- 655 *Gilbert F. Camoin and Lucien F. Montaggioni.* High energy corallgal-stromatolite frameworks from Holocene reefs (Tahiti, French Polynesia)
- 677 *Makoto Ito and Sakae O'Hara.* Diachronous evolution of systems tracts in a depositional sequence from the middle Pleistocene palaeo-Tokyo Bay, Japan
- 699 *Martin R. Gibling and Winton G. Wightman.* Palaeovalleys and protozoan assemblages in a Late Carboniferous cyclothem, Sydney Basin, Nova Scotia
- 721 *James D. Iversen and Keld Romer Rasmussen.* The effect of surface slope on saltation threshold
- 729 *P. W. M. Corbett, S. G. Stromberg, P. J. Brenchley and G. Geehan.* Laminaset geometries in fine grained shallow marine sequences: core data from the Rannoch Formation (North Sea) and outcrop data from the Kennilworth Member (Utah, USA) and the Bencliff Grit (Dorset, UK)
- 747 *Jeffrey L. Howard.* A note on the use of statistics in reporting detrital clastic compositions
- 755 *A. A. M. Agrawi and G. Evans.* Sedimentation in the lakes and marshes (Ahwar) of the Tigris-Euphrates Delta, southern Mesopotamia
- 777 *Trevor A. Jackson and Jennifer West-Thomas.* The genesis of the silica sands of Black River, St Elizabeth, Jamaica
- 787 *Hairuo Qing and Eric W. Mountjoy.* Rare earth element geochemistry of dolomites in the Middle Devonian Presqu'île barrier, Western Canada Sedimentary Basin: implications for fluid-rock ratios during dolomitization
- 805 *Michael M. Joachimski.* Subaerial exposure and deposition of shallowing upward sequences: evidence from stable isotopes of Purbeckian peritidal carbonates (basal Cretaceous), Swiss and French Jura Mountains
- 825 *Rajiv Sinha and Peter F. Friend.* River systems and their sediment flux, Indo-Gangetic plains, Northern Bihar, India
- 846 Forthcoming papers

## NUMBER 5

- 847 *Fuzuli Yağmurlu and Cahit Helvacı.* Sedimentological characteristics and facies of the evaporite-bearing Kirmir Formation (Neogene), Beypazari Basin, central Anatolia, Turkey
- 861 *Idoia Rosales, Pedro Angel Fernández-Mendiola and Joaquín García-Mondéjar.* Carbonate depositional sequence development on active fault blocks: the Albian in the Castro Urdiales area, northern Spain
- 883 *Albert P. Oost and Jaco H. Baas.* The development of small scale bedforms in tidal environments: an empirical model for unsteady flow and its applications
- 905 *Omran E. Frihy.* Discrimination of accreted and eroded coasts using heavy mineral compositions of the Nile Delta beach sands, Egypt
- 913 *K. G. Havholm and G. Kocurek.* Factors controlling aeolian sequence stratigraphy: clues from super bounding surface features in the Middle Jurassic Page Sandstone
- 935 *Arthur K. Satterley, J. D. Marshall and I. J. Fairchild.* Diagenesis of an Upper Triassic reef complex, Wilde Kirche, Northern Calcareous Alps, Austria

- 951 *I. Panagiotopoulos, G. Sylaios and M. B. Collins.* Threshold studies of gravel size particles under the co-linear combined action of waves and currents
- 963 *A. Freiwald and R. Henrich.* Reefal coralline algal build-ups within the Arctic Circle: morphology and sedimentary dynamics under extreme environmental seasonality
- 985 *M. R. Johnson.* Thin section grain size analysis revisited
- 1001 *H. Millan, M. Aurell and A. Melendez.* Synchronous detachment folds and coeval sedimentation in the Prepyrenean External Sierras (Spain): a case study for a tectonic origin of sequences and systems tracts
- 1025 *P. P. E. Weaver.* Determination of turbidity current erosional characteristics from reworked coccolith assemblages, Canary Basin, north-east Atlantic
- 1039 *David C. Mosher, Kathryn Moran and Richard N. Hiscott.* Late Quaternary sediment, sediment mass flow processes and slope stability on the Scotian Slope, Canada
- 1062 Forthcoming papers

## NUMBER 6

- 1063 *R. J. Gibbs, P. K. Jha and G. J. Chakrapani.* Sediment particle size analysis in the Hudson River
- 1069 *Robert W. Dalrymple and Brian A. Zaitlin.* High-resolution sequence stratigraphy of a complex, incised valley succession, Cobequid Bay – Salmon River estuary, Bay of Fundy, Canada
- 1093 *Frank Oldfield and Lizhong Yu.* The influence of particle size variations on the magnetic properties of sediments from the north-eastern Irish Sea
- 1109 *E. L. Winterer and M. Sarti.* Neptunian dykes and associated features in southern Spain: mechanics of formation and tectonic implications
- 1133 *Ross A. Sutherland and Cheing-Tung Lee.* Discrimination between coastal subenvironments using textural characteristics
- 1147 *W. Blendinger.* The carbonte factory of Middle Triassic buildups in the Dolomites, Italy: a quantitative analysis
- 1161 *Manual Sintubin.* Clay fabrics in relation to the burial history of shales
- 1171 *Brian Jones and Robin W. Renault.* Crystal fabrics and microbiota in large pisoliths from Laguna Pastos Grandes, Bolivia
- 1203 *Dana S. Ulmer-Scholle and Peter A. Scholle.* Replacement of evaporites within the Permian Park City Formation, Bighorn Basin, Wyoming, USA
- 1223 *Mitchell J. Malone, Paul A. Baker and Stephen J. Burns.* Recrystallization of dolomite: evidence from the Monterey Formation (Miocene), California
- 1241 *I. K. McEwen and B. B. Willetts.* On the prediction of bed-load sand transport rate in air
- 1253 *S. Morad, H. N. Ben Ismail, L. F. De Ros, I. S. Al-Aasm and N-E. Serrhini.* Diagenesis and formation water chemistry of Triassic reservoir sandstones from southern Tunisia
- 1273 *G. Gerdes, K. Dunajtschik-Piewak, H. Riege, A. G. Taher, W. E. Krumbein and H.-E. Reineck.* Structural diversity of biogenic carbonate particles in microbial mats
- 1295 Author index
- 1296 Forthcoming papers

